

Available online at www.sciencedirect.com**ScienceDirect**

Procedia - Social and Behavioral Sciences 224 (2016) 421 – 428

Procedia
Social and Behavioral Sciences

6th International Research Symposium in Service Management, IRSSM-6 2015, 11-15 August
2015, UiTM Sarawak, Kuching, Malaysia

Developing Scales for Measuring Cultural Values in the Context of Consumer Research

Ida Izumi Abdollah^{a,*}, Firdaus Abdullah^b, Boo Ho Voon^c

^{a, b, c} Faculty of Business Management, Universiti Teknologi MARA (UiTM) Sarawak, Malaysia.

Abstract

Cultural dimensions have been commonly used to understand, contrast and interpret cultures; however specific limitations have affected their applicability for assessing and generalizing Malaysian consumer behavior issues. This study is to re-evaluate Malaysian consumer cultural behaviour. The approach used in the study included both qualitative and quantitative where consumers from different ethnic groups participated in the study. The EFA procedures revealed seven factors; oneself values, religiosity, social harmony, humane oriented, ethnic ancestry, group collectivism and environment. The factors have been empirically tested for unidimensionality using EFA and CFA procedures. The coefficients index, clearly indicated an acceptable model fit. The correlation analysis suggested that all the factors are positively correlated among themselves. The findings provided useful insight to the ongoing debate about the role of culture in the multi-ethnic marketplace which has put a new perspective into the relevancy of adopting a concept of national culture in explaining consumer behaviours as a whole.

© 2016 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the Universiti Teknologi MARA Sarawak

Keywords: Geert Hofstede's; cultural values; culture; Malaysian consumer; ethnic ancestry; religiosity; humane oriented; consumer research

1. Introduction

Culture refers to the norms, values, and beliefs of a particular group or community in a particular area or geographic location, and shared by its members (Hofstede, 1984). Culture has a profound influence on all aspects of

* Corresponding author. Tel.: +6-016-8083735.

E-mail address: idaizumi@sarawak.uitm.edu.my

human behaviour. This accounts for individual's motivations leading to biasness towards a certain brand. Brand preference is the extent to which a consumer favours one brand over another. Studies have addressed the impact of factors such as cultural, social, personal, and psychological as well as changes in consumer's lifestyles on brand preferences (Fournier, 1998) and would respond favourably to brands when the associated cultural meanings reinforce their cultural identity (Kacen and Lee, 2002). The intangible elements of culture incorporate the dominant societal values and belief systems, which characterize a community that influence the patterns of behavior in that community. However, determining the influence of culture on behaviour is relatively difficult, as culture is a complex and broad construct. The complexity of culture is reflected in the multitude of definitions of culture (Kroeber and Kluckhohn, 1952), whereby more than 160 different definitions of culture have been listed. The concept of national culture has long been recognized and used as an approach in explaining behaviours and attitudes difference cultures.

Previous Measurement of Cultural Values: Hofstede's cultural research is one of the most widely adopted in cultural studies. Hofstede's (1983) cultural dimensions are formulated based on a wide range of social sciences, which are considered conceptually well grounded and have substantial empirical supports (McSweeney, 2002). Hofstede proposed four cultural dimensions- power distance, individualism, masculinity and uncertainty avoidance. These four cultural dimensions are somewhat restricted because the original questionnaire is constructed based on the Western understanding of culture. Ironically, Bond (2002) produces an additional dimension that is a long-term outlook, also known as Confucian dynamic, which is associated with stability, thrift, respect for tradition and the future, and regard for obligation within limits, catering for the Asian and Pacific countries.

On the other hand, Schwartz's (1994) cultural values are the basis for specific norms that detail individual what is appropriate in various situations which are reflected in societal institutions such as family, education, economic, political and religious systems which function as their goals and modes of operations. The values represent the foundations of human existence in the pursuit of individualistic or collective needs of group's requisites of coordinated social interactions. A comprehensive empirical analysis gives support for the near-universality of these ten values namely self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence and universalism.

Hofstede's and Schwartz's frameworks are commonly used to compare cultures in a homogeneous population, but lack of practical relevance in an ethnically diverse culture such as Malaysia. Efforts have been made to explain the Malaysian cultural behaviour (Asma and Lim, 2001; Putit and Arnott, 2007; Selvarajah and Meyer, 2008; Kamaruddin and Kamaruddin, 2009). Asma and Lim (2001) suggested a model with eight dimensions of Malaysian culture following the anthropological approach. These eight dimensions include relationship-task, harmony-control, shame-guilt, we-I, religious-secular, hierarchy-equality, polychronic-monochronic and high-low context. The research also indicates that Malaysians diverge in only one of the eight dimensions that is religious-secular and suggests that Malaysians of various ethnics have more converging cultural values than diverging cultural values.

Other studies have posited the importance of religion to be part of culture. According to Kamaruddin and Kamaruddin (2009), religion is a critical part of cultural life where individuals, groups and institutions represent their ideals through religious beliefs and practices, which are translated as freedom and constraints by prescribing behaviours within acceptable boundaries. De Jong et al., (1976) identified six dimensions of religiosity namely beliefs, experiences, religious practices, religious knowledge, individual moral consequences and social consequences. Tarakeshwar and Pargament (2003) further indicated that religion should be fully integrated into cross-cultural research, and proposed a five dimensional framework of religion that can be applied and integrated when researching across cultures; they are ideological, ritual, experiential, intellectual and social dimensions. Influences such as culture, sub-culture, social status, reference groups interaction, perceptions, learning, personality, emotions and attitudes are affecting the individuals' self-concept and lifestyle, translated in their decision process. Consumer's decisions cannot be viewed as an independent event as it is closely related with values and social relationship and cultural allegiance (Samuel and Douglas, 2006). Such is supported by Sirgy (1982), in his self-congruity theory which posited that individuals are expected to prefer a product when a product user's image is congruent with their self-concept.

Thus, in an ethnically complex and dynamic environment, cultural boundaries become more blurred and newer cultural values may emerge. It is under this backdrop that this study which describes the methodological development and eventually identifies the factors that are relevant to the Malaysian cultural behaviour in reference to

brand preference. The approach used to develop the instrument for this study is consistent with the procedures recommended by Churchill (1979) which have been widely used for a variety of applications, including the development of measuring instruments.

2. Materials and methods

Survey Questionnaire: The approach used in the study is both qualitative and quantitative. This involved in-depth searching of the literature to ascertain the pool of items that would be candidates for inclusion in the scales. Items for the instrument are derived from constructs identified from both non Malaysian and Malaysian based cultural studies. Interviews were conducted with product consumers to access to items that have been poorly addressed in the literature (Hudson and Ozanne, 1988) but are nonetheless critical in a Malaysian cultural study. This study redefines Bumiputera as being Malay and non-Bumiputera Malay. The approximate population ratio of these ethnic groups are checked against the total population. 100 respondents were identified, prescreened and selected to ensure that the samples would include respondents with different points of view and backgrounds such as ethnic group, gender and income level. The interviews were conducted by the researcher, and assisted by five graduate students. Open ended questions were asked pertaining to the cultural and product related issues. The feedback from the interviews was subjected to thematic analysis to identify the main themes (Boyatzis 1998). From the thematic analysis, two additional constructs are identified that are halal construct (permissible food by Muslim) and environmental construct.

Based on the literature review and the interviews, 59 items have been identified. The content validity of the items was assessed by experts who have a good background on cultural based research. The items were screened to identify duplicate items and potential sources of ambiguity, after which several of the items were eliminated. Minor changes were also made, where few words and sentences were redrafted, reworded and technical jargon rephrased to ensure clarity and simplicity. The experts viewed that the questionnaire corresponded with the relevant issues and the final item pool containing 52 items was then submitted for further scale purification and validation process. The drafted questionnaire consisted of demographic profile (Part A), cultural related questions (Part B), brand preference questions (Part C). The questions were worded in English and Bahasa Malaysia and presented randomly as statements in the questionnaire with the same rating scale used throughout that is the five point Likert type scale that varied from 1 (strongly disagree) to 5 (strongly agree). The distribution and collection of questionnaire were done personally and by mail. Approximately, 300 questionnaires were distributed with a response rate of 77.2%, with only 200 deemed usable that is valid and completed.

Test of Normality: Prior to the further statistical analysis, a test of normality was carried out. The assumption of a normal distribution is a prerequisite for many inferential statistical techniques (Hair et al., 2010). The test of normality serves as an approximate sampling distribution for many statistics and its violation will result in unreliable inferences and misleading interpretations. The scatter plots of χ^2_{df} vs. χ^2_{df} , in Chart 1 indicated the good fit with $R^2=0.986$ implying that the data is multivariate normal.

Reliability and Exploratory Factor Analysis (EFA): The primary purpose of EFA procedures is to determine the number of latent constructs underlying a set of items and to provide a mean of explaining variation among items using a few newly created variables and to define the meaning of factors (Hair et al., 2010). EFA procedures are commonly used to discover new constructs (Tinsley and Tinsley, 1987) and validation of psychometric instruments (Parasuraman, 1988; Abdullah, 2006; Abdullah et al., 2012).

Scale purification began with the computation of the reliability coefficient based on Churchill's (1979) recommendation. A value of 0.70 and above was adopted as a cut off point for demonstrating internal consistency of new scales (Nunnally and Bernstein, 1988). The coefficient was indexed at 0.82, demonstrating internal consistency and satisfactory reliability values in their original form. Further analyses were carried out to check on the factorability of the data, as suggested by Hair et al., (2010) prior EFA. Visual checking of the correlation suggests that there are relatively high degrees of correlations, where significant numbers of correlations between items are well above 0.30. Bartlett test of sphericity results indicates significance, $p < 0.001$, χ^2 (52, $N = 200$). KMO was indexed at 0.83, which was far above the adequate sampling requirement dictated by Kaiser (1970). The anti image

correlation matrix ranging between 0.65 to above 0.90, reveals that all individual items are well above the minimum threshold of 0.5. These confirmed the suitability of the data for factor analysis.

To identify the factor structure, all the items from Section B of the questionnaire were subjected to EFA utilizing the principal components procedure, which was followed by a varimax rotation. A factor loadings of 0.4 based on sample size was selected (Hair et al., 1995. pg 117), $p = 0.05$ with a sample size of 200 respondents ($n = 200$ in this study) and all factors whose eigenvalues greater than 1.0 were retained in the factor solution (Tabachnick and Fidell, 2001). The variable's communality, which represents the amount of variance accounted for by the factor solution for each variable was also assessed to ensure acceptable levels of explanation. Towards achieving a well defined factor structure, some items were removed from the factor loading matrix, resulting in a reduction of number of factors. Subsequently, a new seven factors solution was derived which accounted for 59.63% of the variation in the data, compared to 57.23% in the first factor solution. Table 1 summarizes the factor analysis in terms of loadings, eigenvalues, percentage variance and cumulative percentages of variance explained by each factor.

Confirmatory factor analysis (CFA): A highly critical condition for construct validity and reliability checking is the unidimensionality of the measure, implying the existence of a single construct or trait underlying a set of measures (Hattie, 1985; Anderson and Gerbing, 1991). In order to check for unidimensionality, the 30 items seven factor model was estimated by means of Structural Equation Modeling (SEM) within LISREL framework to see how closely they represent the same construct.

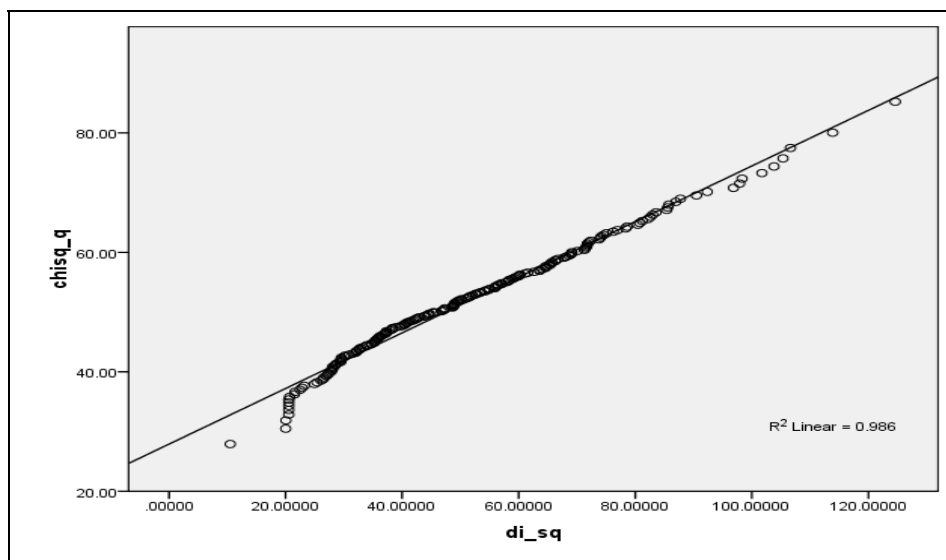


Fig. 1. Scatter plots: Chisq_q vs. Mahalanobis (di_sq)

In assessing unidimensionality, multiple fit indices were considered simultaneously (Hair et al., 2010). The χ^2 results were significant, $p < 0.01$, χ^2 (52, $N = 200$). The Chi-square for the data that is $\chi^2 = 634.80$, $df = 370$, with relative likelihood ratio between χ^2 and its degrees of freedom (χ^2/df) indexed at 1.72 was considered a good fit. Table 2 shows the model fit indices. RMSEA was indexed at 0.059, whereas RMR and SRMR were indexed at 0.059 and 0.61 respectively. Both Bentler Bonnet Index (BBI) and Tucker Lewis Index (TLI) were indexed at 0.91 and 0.96 respectively. The value of CFI in this model was indexed at 0.96. Based on the rules of thumb, the indices are well within the category of an acceptable fit model. Hair et al., (2010), further posited that for a model to be accepted as a good model, based on the number of observation ($N \leq 250$) and with number of observed variables ($N \geq 30$) recommended that χ^2 be significant, with CFI more than 0.92, SRMR less than 0.09 and RMSEA less than 0.08. These indices are clearly well within the recommended range and further concluded that the seven factors model fit well and represents a reasonably close approximation in the population.

Further reliability test was carried out after the unidimensionality had been established. The values of reliability coefficient for all the seven factors are shown in Table 3. All the values met the required prerequisite, thereby demonstrating that all the seven dimensions are internally consistent and have satisfactory reliability values in their original form.

Face validity was assessed qualitatively by operationalizing the construct as to present unambiguous meaning of the subject being studied, whereas content validity emphasized on the relevancy of the content domains exist in the relevant literature against the constructs of measurement. Since that the questionnaire had been designed through a comprehensive exercise; review of relevant literature supported by suggestions and inputs from cultural experts and subsequently fine-tuned then, both the face and content validity of the instrument were ensured (Bohmstedt et al., 1983; Kaplan and Saccuzzo, 1993).

Table 1. Results of factor analysis.

No.	Items	Factor / Factors Loadings						
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
1	Care for common good	.785						
2	Inspiring for peace.	.662						
3	Respect life	.605						
4	Power & money		.751					
5	Social status		.697					
6	Different from others		.662					
7	Appreciation to an individual		.550					
8	I would solve a problem by myself		.507					
9	Concern for others			.653				
10	Environment problems concerned			.577				
11	Recycling			.577				
12	Protect the environment			.514				
13	Imitation products			.493				
14	Portraying a strong community identity				.717			
15	Participating in ethnic festivities				.658			
16	Participating in religious activities & contributions				.482			
17	Traditional ways of life				.475			
18	Portraying ethnic culture				.474			
19	Dignity				.461			
20	Honour tradition				.405			
21	Faith in god					.712		
22	Religion influence on actions and behaviours					.649		
23	Halal certifications					.448		
24	Organic based consumption						.788	
25	Organic based products						.639	
26	Ethnic background influence behavior						.530	
27	Association with members of my ethnic group						.489	
28	Systematic							.794
29	Sacrifice self benefits for the interests of others							.624
30	Agreeable							.456
Eigenvalues		9.09	2.30	1.60	1.41	1.30	1.17	1.02
Variance (%)		30.30	7.67	5.33	4.69	4.32	3.91	3.41

Cumm. Percentage of Variance	30.30	37.97	43.30	47.99	52.31	56.22	59.63
------------------------------	-------	-------	-------	-------	-------	-------	-------

Table 3 also shows the Bentler Bonnet coefficient of the individuals construct. The Bentler Bonnet coefficients clearly indicate the values range well above 0.90 indicating evidence of convergent validity. A Chi-square (χ^2) difference test is adopted to check for discriminant validity. Discriminant validity is the extent to which the construct is truly distinct from other constructs, providing the evident that the construct is unique and capture some phenomena that others constructs do not (Hair et al., 2010). The discriminant validity of the two constructs is the difference between the χ^2 values of the restricted model and unrestricted model, where the degree of freedom (df) is less one for each additional path that is estimated. A statistical significant value of χ^2 difference demonstrates that the two constructs are distinct. The procedure is repeated for all the pairs resulting in a total of 21 discriminant validity checks. The entire 21 procedures indexed χ^2 differences statistically significant at $p < 0.005$, indicating discriminant validity. Criterion-related validity refers to the extent to which one measure estimates or predicts the values of another measure. Criterion-related validity is established by correlating the dimensions scores with brand preference. The coefficients indexed clearly shows positive and a relatively strong relationship, with the value ranges of 0.522 to 0.644. Such is an indication of criterion-related validity.

Table 2. Model fit Indices.

No.	Types Fit Indices	Fit Indices
1	χ^2/df (where, $\chi^2 = 634.80$, $df = 370$)	1.72
2	Root Mean Square Error of Estimation (RMSEA)	0.059
3	Root Mean Square Residual (RMR)	0.059
4	Standardized Root Mean Square Residual (SRMR)	0.061
5	Bentler Bonnet Index [BBI, (NFI)]	0.914
6	Tucker Lewis Index [TLI, (NNFI)]	0.955
7	Comparative Fit Index (CFI)	0.962

Table 3. The reliability and convergent indices for the seven cultural dimensions.

No.	Factors	Reliability coefficient (α)	Bentler Bonett coefficient
1	Social Harmony	0.759	0.946
2	Oneself values	0.773	0.969
3	Humane oriented	0.732	0.963
4	Ethnic Ancestry	0.820	0.962
5	Religiosity	0.689	0.937
6	Environmental	0.730	0.974
7	Group collectivism	0.705	0.945

3. Discussions and conclusion

The seven factors, though conceptually distinct yet positively correlated, indicate that the factors are interactive and mutually affecting each other. The findings support the notion in many Malaysian based cultural studies that suggested religion is a significant dimension (Zabid et al., 1997; Asma and Lim, 2001). Religiosity is associated with faith in god, its influence on an individual's actions and behaviour, and halal (permissible) certification. Such are the prescribed norms, values and behaviours expected of an individual and within the societal context (Tarakeshwar and Pargament, 2003), who is identified with a certain religion, commonly based on the religious teaching or texts such as the Quran and Bible. The findings further extend the significant role of religiosity factor affecting consumer behaviour not only the Malay ethnic but other ethnics in Malaysia as well.

The findings also identified oneself values which are associated with power, money, social status, independence and being different from others. This factor is similar to Hofstede (1983) individualistic and Asma and Lim (2001) We-I dimension portraying the importance of self concept development. The findings also identified social harmony, human oriented, ethnic ancestry, group collectivism and environment as important factors. Unlike religiosity and oneself values, these factors are located on the same platform which portrays the sense of commitment and responsibility to societal elements. Thus, despite the existence of oneself values, yet Malaysian consumer behaviour emphasizes interdependence, emotional moderation, group needs and desires which may seem to guide behaviour.

This paper demonstrates the development of consumer behaviour. The finding supports previous research on inconsistent attitude behaviour relationships (Kashima et al, 1992) and putting their own feelings aside in order to act in an appropriate manner (Triandis, 1995). Thus, Malaysian consumers tend to select brand with compatible abstract meanings as a function of social harmony, humane oriented, ethnic ancestry, group collectivism and environmental orientations. Such association is also seen from the perspective of preservation in individual life, society and nature. This finding has contributed to the ongoing debate of the culture roles in the multi-ethnic marketplace which has put a new perspective into the relevancy of adopting a concept of national culture in explaining consumer behaviours as a whole. Thus, this development of cultural scales will aid both managers and academics in better understanding in consumer behavior.

References

- Abdullah, F. (2006). The development of HEDPERF: A new measuring instrument of service quality for the higher education sector. *International Journal of Consumer Studies*, 30(6), 569-581.
- Abdullah, F., Abdurahman, A. Z. A., & Hamali, J. (2012). Developing a framework of success for the food service industry in Malaysia. *International Journal of Business and Society*, 13(3), 309-334.
- Anderson, J. C., & Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology*, 76(5), 732.
- Asma, A., & Lim, L. (2001). Cultural dimensions of Anglos, Australians and Malaysians. *Malaysian Management Review*, 36(2), 1-17.
- Bohrnstedt, G., Rossi, P., Wright, J., & Anderson, A. (1983). Handbook of survey research. Measurement. San Diego: Academic press.
- Bond, M. (2002). Reclaiming the individual from Hofstede's ecological analysis - A 20 year odyssey: Comment on Oyserman et al. *Psychological Bulletin*, 128(1), 73-77.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16, 64-73.
- De Jong, G. F., Faulkner, J. E., & Warland, R. H. (1976). Dimensions of religiosity reconsidered; Evidence from a cross-cultural study. *Social Forces*, 54(4), 866-889.
- Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of Consumer Research*, 24(4), 343-353.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (Vol. 6). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hattie, J. (1985). Methodology review: assessing unidimensionality of tests and items. *Applied Psychological Measurement*, 9(2), 139-164.
- Hofstede, G. (1984). *Culture's consequences: International differences in work-related values* (Vol. 5). Newbury Park, CA: Sage.
- Hofstede, G. (1983). National cultures in four dimensions: a research-based theory of cultural differences among nations. *International Studies of Management and Organization*, 16(1/2), 46-74.
- Hudson, L. A., & Ozanne, J. L. (1988). Alternative ways of seeking knowledge in consumer research. *Journal of Consumer Research*, 14(4), 508-521.
- Kacen, J. J., & Lee, J. A. (2002). The influence of culture on consumer impulsive buying behavior. *Journal of Consumer Psychology*, 12(2), 163-176.
- Kaiser, H. F. (1970). A second generation little jiffy. *Psychometrika*, 35(4), 401-415.
- Kamaruddin, A. R., & Kamaruddin, K. (2009). Malay culture and consumer decision-making styles: an investigation on religious and ethnic dimensions. *Jurnal Kemanusiaan*, 11, 14-28.
- Kaplan, R. M., & Saccuzzo, D. P. (1993). *Psychological Testing: Principles, Applications and Issues* (3rd ed.). Pacific Grove, CA: Brooks Cole.
- Kashima, Y., Siegal, M., Tanaka, K., & Kashima, E. S. (1992). Do people believe behaviors are c(onsistent with attitudes? Towards a cultural psychology of attribution processes. *British Journal of Social Psychology*, 31(2), 111-124.
- Kroeber, A. L., & Kluckhohn, C. (1952). *Culture: A critical review of concepts and definitions*. Papers. Peabody Museum of Archaeology & Ethnology, Harvard University.
- McSweeney, B. (2002). Hofstede's model of national cultural differences and their consequences: A triumph of faith-a failure of analysis. *Human Relations*, 55(1), 89-118.
- Nunnally, J. C., & Bernstein, I. H. (1978). *Psychometric Theory*. New York: McGraw Hill.

- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual. A multiple item scale for measuring consumer perception of service quality. *Journal of Retailing*, 64(1), 12-40.
- Putit, L., & Amott, D. C. (2007). Micro-culture and consumers' adoption of technology: A need to re-evaluate the concept of national culture. *Academy of Marketing Science Review*, 11(6), 1-15.
- Samuel Craig, C., & Douglas, S. P. (2006). Beyond national culture: implications of cultural dynamics for consumer research. *International Marketing Review*, 23(3), 322-342.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and. *Journal of Social issues*, 50(4), 19-45.
- Selvarajah, C., & Meyer, D. (2008). One nation, three cultures: exploring dimensions that relate to leadership in Malaysia. *Leadership & Organization Development Journal*, 29(8), 693-712.
- Sirgy, M. J. (1982). Self-concept in consumer behavior: A critical review. *Journal of Consumer Research*, 9, 287-300.
- Tabachnick, B.G., & Fidell, L.S. (2001). *Using Multivariate Statistics* (3rd ed.). New York: HarperCollins
- Tarakeshwar, N., Stanton, J., & Pargament, K. I. (2003). Religion an overlooked dimension in cross-cultural psychology. *Journal of Cross-Cultural Psychology*, 34(4), 377-394.
- Tinsley, H. E., & Tinsley, D. J. (1987). Uses of factor analysis in counseling psychology research. *Journal of Counseling Psychology*, 34(4), 414.
- Triandis, H. C. (1995). *Individualism & collectivism*. Westview press.
- Zabid, A. R. M., Anantharaman, R. N., & Raveendran, J. (1997). Corporate cultures and work values in dominant ethnic organizations in Malaysia. *Journal of Transnational Management Development*, 2(4), 51-63.